

Patent claims

1. Method for the isolation and concentration of macromolecules, ^{wherein} ~~characterized in that~~ the macromolecules are electrokinetically collected on a membrane in a microchannel and are then analysed.
2. Method according to Claim 1 ^{wherein} ~~characterized in that~~ the nucleic acids, viruses, proteins, bacteria or fungi are electrokinetically collected on a membrane in a microchannel and are then analysed.
3. Method according to Claim 1 ~~Claims 1 and 2~~, where the sample is derivatized on the membrane.
4. Method according to Claim 1 ~~Claims 1 to 3~~ as sample preparation for further analytical methods.
5. Method according to Claim 4 ~~Claims 1 to 4~~ as sample preparation for MS, gel electrophoresis, PCR, TEM, nucleic acid sequencing, immunodiagnosis and hybridizations.
6. Device for carrying out the method according to Claim 1 ~~Claims 1 to 5~~ in the form of a chip module with embedded membrane, with 1-400 capillaries being arranged side by side.
7. Device according to Claim 6, comprising a membrane of polyethersulphone (PES), polyester, fabric-supported acrylic polymer, polytetrafluoroethylene (PTFE), polysulphone, polypropylene (PP), glass fibre, nylon or polycarbonate.
8. Device for carrying out the method according to Claim 1 ~~Claims 1 to 5~~ in the form of a shallow channel for analysing salt-containing samples.
9. Use of the device according to Claim 6 ~~Claims 6 to 8~~ for the enrichment and the analysis of macromolecules.
10. Use of the device according to Claim 6 ~~Claims 6 to 8~~ in the quality control of biological products.

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11. Use of the device according to ~~Claims 6 to 8~~ ^{claim 6} for direct infection diagnosis.

12. Use of the device according to ~~Claims 6 to 8~~ ^{claim 6} for amplification-free nucleic acid analysis.

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